

1 **In the Claims**

2 Claim 33 has been amended.

3 Claims 1-16, 32, and 42 were previously canceled without prejudice.

4 Claims 17-31, 33-41 and 43-59 remain in the application and are listed  
5 below:

6  
7 1.-16 (Canceled).

8  
9 17. (Previously Presented) A computing device comprising:  
10 a computer-readable medium;  
11 a location service module embodied on the computer-readable medium; and  
12 multiple different location providers configured to receive information from  
13 one or more different sources of information and process the information to  
14 provide location information to the location service module,

15 the location service module being configured to process the location  
16 information to provide a current device location; and

17 a hierarchical tree structure that resides on the computer-readable medium,  
18 the hierarchical tree structure comprising multiple nodes that are each assigned a  
19 unique identification, the nodes representing geographical divisions of the Earth,  
20 the location service module being configured to traverse at least some of the nodes  
21 to provide the current device location.

22  
23 18. (Original) The computing device of claim 17 embodied as a mobile  
24 computing device.  
25

1           19.   (Original) The computing device of claim 17 embodied as a desktop  
2 computing device.

3  
4           20.   (Original) The computing device of claim 17, wherein one or more  
5 of the location providers are configured to self-monitor their operation and to  
6 inform the location service module of an operation irregularity.

7  
8           21.   (Original) The computing device of claim 17, wherein one or more  
9 of the location providers are configured to assign confidence parameters to the  
10 information that is provided to the location service module, the confidence  
11 parameters providing a measure of a provider's confidence in the information.

12  
13           22.   (Original) The computing device of claim 17, wherein one or more  
14 of the location providers are configured to assign accuracy parameters to the  
15 information that is provided to the location service module, the accuracy  
16 parameters providing a measure of the accuracy of a provider's information.

17  
18           23.   (Original) The computing device of claim 17, wherein one or more  
19 of the location providers are configured to:

20           assign confidence parameters to the information that is provided to the  
21 location service module, the confidence parameters providing a measure of a  
22 provider's confidence in the information; and

23           assign accuracy parameters to the information that is provided to the  
24 location service module, the accuracy parameters providing a measure of the  
25 accuracy of a provider's information.

1  
2 24. (Original) The computing device of claim 17, wherein one or more  
3 of the location providers are configured to continuously update information that is  
4 provided to the location service module.  
5

6 25. (Original) The computing device of claim 17, wherein one or more  
7 of the location providers are configured to periodically update information that is  
8 provided to the location service module.  
9

10 26. (Original) The computing device of claim 25, wherein the one or  
11 more location providers are configured to update the information at specified  
12 times.  
13

14 27. (Original) The computing device of claim 25, wherein the one or  
15 more location providers are configured to update the information on the  
16 occurrence of specified events.  
17

18 28. (Original) The computing device of claim 17, wherein one or more  
19 of the location providers are configured to receive a request from the location  
20 service module and update the information that is provided to the location service  
21 module based on the request.  
22

23 29. (Original) The computing device of claim 17, wherein the  
24 computing device comprises a hand-held mobile computing device.  
25

1       30. (Original) The computing device of claim 17, wherein the  
2 computing device is configured to accommodate dynamically adding or removing  
3 one or more location providers.

4  
5       31. (Original) The computing device of claim 17, wherein the  
6 computing device is configured to continue operation when one or more of the  
7 location providers stops functioning.

8  
9       32. (Canceled).

10  
11       33. (Currently Amended) The computing device of claim ~~32~~ 17, wherein  
12 one or more of the location providers are configured to process the information  
13 and provide the unique identification for one of the nodes of the hierarchical tree  
14 structure.

15  
16       34. (Previously Presented) A method of determining the location of a  
17 computing device comprising:

18       providing multiple location providers that are configured to provide  
19 location information that pertains to a current location of the computing device;

20       receiving location information from the multiple location providers using a  
21 common interface;

22       using the information that is received from the multiple location providers  
23 to ascertain a current device location by using a hierarchical tree structure  
24 comprising multiple nodes that are each assigned a unique identification, the nodes  
25

1 representing geographical divisions of the Earth, said act of using comprising  
2 traversing at least some of the nodes to provide the current device location.

3  
4 35. (Original) The method of claim 34, wherein the common interface  
5 accommodates multiple location providers that are different.

6  
7 36. (Original) The method of claim 34, wherein the receiving of the  
8 location information comprises continuously receiving location information from  
9 at least one of the location providers.

10  
11 37. (Original) The method of claim 34, wherein the receiving of the  
12 location information comprises periodically receiving location information from at  
13 least one of the location providers.

14  
15 38. (Original) The method of claim 37, wherein the receiving of the  
16 information comprises receiving the information at specific times.

17  
18 39. (Original) The method of claim 37, wherein the receiving of the  
19 information comprises receiving the information on the occurrence of specific  
20 events.

21  
22 40. (Original) The method of claim 37, wherein the receiving of the  
23 information comprises receiving the information responsive to a request to receive  
24 the information.

25

1           41. (Previously Presented) One or more computer-readable media  
2 having computer-readable instructions thereon which, when executed by a hand-  
3 held mobile computing device, cause the hand-held mobile computing device to:  
4           provide multiple different location providers that are configured to provide  
5 location information that pertains to a current location of the computing device;  
6           receive location information from the multiple different location providers  
7 using a common interface; and  
8           use the information that is received from the multiple location providers to  
9 ascertain a current device location by traversing a hierarchical tree structure  
10 comprising multiple nodes that represent physical or logical entities in order to  
11 ascertain the current device location.

12  
13           42. (Canceled).

14  
15           43. (Previously Presented) A method of determining the location of a  
16 mobile computing device comprising:

17           providing multiple different location providers that are configured to  
18 provide location information that pertains to a current location of the computing  
19 device;

20           monitoring one or more of the location providers;

21           assigning a confidence parameter to location information that is provided  
22 by one or more providers, the confidence parameter providing a measure of a  
23 provider's confidence in its location information;

24           sending the location information and the confidence parameter to a location  
25 service module on the mobile computing device, the location service module being

1 configured to use the location information and the confidence parameter to  
2 ascertain a current device location;

3 wherein said location information is configured to be used by the location  
4 service module in conjunction with a hierarchical tree structure that resides on a  
5 computer-readable medium on the mobile computing device, to ascertain the  
6 current device location, the hierarchical tree structure comprising multiple nodes  
7 that are each assigned a unique identification, the nodes representing geographical  
8 divisions of the Earth, the location service module being configured to traverse at  
9 least some of the nodes to provide the current device location.

10  
11 44. (Original) The method of claim 43 further comprising assigning an  
12 accuracy parameter to the location information that is provided by one or more  
13 providers, the accuracy parameter providing a measure of the accuracy of a  
14 provider's location information.

15  
16 45. (Original) The method of claim 43 further comprising responsive to  
17 the monitoring, notifying the location service module upon the occurrence of an  
18 operation irregularity.

19  
20 46. (Original) The method of claim 43 further comprising receiving a  
21 location query and responding to the query with a location provider.

22  
23 47. (Original) The method of claim 43, wherein one or more of the  
24 location providers are configured to continuously send the location information to  
25 the location service module.

1  
2 48. (Original) The method of claim 43, wherein one or more of the  
3 location providers are configured to periodically send the location information to  
4 the location service module.

5  
6 49. (Original) The method of claim 48, wherein the one or more location  
7 providers are configured to send the location information at specified times.

8  
9 50. (Original) The method of claim 48, wherein the one or more location  
10 providers are configured to send the location information on the occurrence of  
11 specified events.

12  
13 51. (Original) One or more computer-readable media having computer-  
14 readable instructions thereon which, when executed by a mobile computing  
15 device, implement the method of claim 43.

16  
17 52. (Previously Presented) A method of determining the location of a  
18 mobile computing device comprising:

19 providing multiple different location providers that are configured to  
20 provide location information that pertains to a current location of the computing  
21 device;

22 monitoring one or more of the location providers;

23 assigning an accuracy parameter to location information that is provided by  
24 one or more providers, the accuracy parameter providing a measure of the  
25 accuracy of a provider's location information;



1 sending the location information and accuracy parameter to a location  
2 service module on the mobile computing device, the location service module being  
3 configured to use the location information and the accuracy parameter to ascertain  
4 a current device location;

5 wherein said location information is configured to be used by the location  
6 service module in conjunction with a hierarchical tree structure that resides on a  
7 computer-readable medium on the mobile computing device, to ascertain the  
8 current device location, the hierarchical tree structure comprising multiple nodes  
9 that are each assigned a unique identification, the nodes representing geographical  
10 divisions of the Earth, the location service module being configured to traverse at  
11 least some of the nodes to provide the current device location.

12  
13 53. (Original) The method of claim 52 further comprising, responsive to  
14 the monitoring, notifying the location service module on the occurrence of an  
15 operation irregularity of a location provider.

16  
17 54. (Original) The method of claim 52 further comprising receiving a  
18 location query and responding to the location query with the location provider.

19  
20 55. (Original) The method of claim 52, wherein one or more of the  
21 location providers continuously send location information to the location service  
22 module.

1           56. (Original) The method of claim 52, wherein one or more of the  
2 location providers periodically send location information to the location service  
3 module.

4  
5           57. (Original) The method of claim 56, wherein the one or more location  
6 providers send the location information at specified times.

7  
8           58. (Original) The method of claim 56, wherein the one or more location  
9 providers send the location information on the occurrence of specified events.

10  
11           59. (Original) One or more computer-readable media having computer-  
12 readable instructions thereon which, when executed by a mobile computing  
13 device, implement the method of claim 52.